Patent Claims

1. Process for the continuous free-radical homogeneous solution polymerization or melt polymerization of (meth)acrylate monomer mixtures, characterized in that the monomer mixture is fed at the bottom of a tubular reactor, is heated to reaction temperature in the presence of an initiator or initiator mixture, and is stirred at from 5 to 50 rpm by a stirrer, and the molten polymer is discharged at the top of the tubular reactor.

2. Process according to Claim 1, characterized in that the temperature profile is such that the monomer mixtures and polymers in the reactor are always liquid.

3. Process according to Claim 1, characterized in that an initiator or initiator mixture is introduced within the tubular reactor.

4. Process according to Claim 1, characterized in that the monomer mixture is preheated.

5. Process according to Claim 1, characterized in that it is carried out without solvent.

6. Process according to Claim 1, characterized in that the final polymerization takes place in a downstream reactor.

7. Process according to Claim 1, characterized in that further processing of the polymer takes place directly in a downstream processing apparatus.

8. Process according to Claim 1, characterized in that one or more monomer mixtures of different composition are fed into the tubular reactor.

9. Monomer mixtures according to Claim 8,

characterized in that they comprise not only one or more monomers but also an initiator or initiator mixtures and a regulator or regulator mixtures, and auxiliaries and additives.

10. Monomer mixtures according to Claim 8, characterized in that one mixture comprises not only one or more monomers but also an initiator or initiator mixtures, and auxiliaries and additives, and the other mixture comprises not only one or more monomers but also a regulator or regulator mixture, and auxiliaries and additives.

11. Polymers prepared according to Claim 1, characterized in that melt polymers have a glass transition temperature $\leq 70°C$.

12. Tubular reactor, arranged vertically, with starting material introduction in the lower third, and product take-off in the upper third, characterized in that reactor zones can be heated separately, and a centrally arranged stirrer unit operates at rotation rates of from 5 to 50 rpm.

13. Use of the polymers obtainable by a process according to any of Claims 1 to 8, in the form of hot-melt adhesives.

14. Use of the polymers obtainable by a process as claimed in any of Claims 1 to 8, in the form of viscosity index improvers.

15. Use of the polymers obtainable by a process according to any of Claim 1 to 8, in the form of setting-point improvers.

16. Use of the polymers obtainable by a process according to any of Claims 1 to 8, in the form of lacquers.